

## ABSTRACT

An ultrasonic diagnostic apparatus includes an ultrasound probe having two-dimensionally arranged transducer elements for transmitting and receiving an ultrasonic wave to an object to be examined, transducer element selecting means for selecting the transducer element used in ultrasound transmission and reception, signal processing unit for applying a delay time to a signal received by the selected transducer element, image processing unit for generating an image on the basis of an output signal of the signal processing unit, and image display unit for displaying the image, wherein the image processing unit includes storing means for storing a first ultrasound image obtained by a scan of the first transducer arrangement selected by the transducer element selecting means and a second ultrasound image obtained by a scan of the second transducer arrangement selected by the transducer element selecting means so as to irradiate an ultrasound beam in a different direction than a beam direction of the first transducer arrangement, and image calculating means for combining the first ultrasound image and the second ultrasound image. By providing the above-described ultrasonic diagnostic apparatus, a tomographic image of high resolution can be collected using the ultrasound probe of two-dimensional arrangement, and image quality of a diagnostic image can be improved using the ultrasonic probe of two-dimensional arrangement without increasing a scale.